



Project name: MTA Halon Replacement

Transit agency: Maryland Transit Administration

Location: Baltimore, Maryland

TIGGER goal: GHG emissions reduction

FTA region number: III

Award amount: \$522,000

Congressional district: MD-1, MD-2, MD-3, MD-6, and MD-7

Funding mechanism: Recovery Act (ARRA)

The Maryland Transit Administration (MTA) owns

and operates many transit- and railroad-related structures and facilities throughout Maryland.

MTA's multi-modal transit systems include buses, light-rail, heavy-rail, regional commuter trains, paratransit, and freight.

On a normal day, the bus system operates 668 buses along 51 lines throughout the metropolitan Baltimore area. The Baltimore heavy-rail transit system consists of 16 miles of track extending from downtown Baltimore to the northwest suburbs. The light-rail system has 53 vehicles and about 57 miles of track. The Maryland Rail Commuter Service operates more than 203 miles of track with 122 rail cars and 35 locomotives.

Maryland Transit Administration Replaces Halon with Environmentally Friendly Alternative

Halon 1301 is an effective fire-suppression agent that can protect the sensitive electronic systems used for train control and telecommunications. It's also characterized as a greenhouse gas with "high global warming potential," which is why the Maryland Transit Administration (MTA) removed about 5 metric tons of it from 24 facilities in and around Baltimore.

The manufacture and importation of Halon 1301 (chemical formula CBrF_3) was banned in the United States in 1994 in response to the Montreal Protocol Agreement of 1987 to reduce greenhouse gas emissions. Although the continued use of the fluorinated gas is legal, recycling is encouraged and handling practices are restricted.





Stat-X fire suppression system installed as part of the Halon replacement project at an MTA facility in Baltimore, Maryland.

Each metric ton of Halon 1301 released to the atmosphere—intentionally or not—is equivalent to releasing 6,900 metric tons of carbon dioxide. MTA recognized the risk posed by potential leakage, and decided to do something about it.

With a \$522,000 award from the TIGGER program along with \$311,000 of its own funds, MTA hired Remtec International of Ohio to safely recycle its supply of the chemical. The total \$833,000 budget equated to \$24.14 per metric ton of carbon-dioxide-equivalent reduction.

Impact:

By removing and recycling 5 metric tons of Halon 1301 from its facilities, MTA has prevented a potential emissions release equivalent to nearly 35,000 metric tons of carbon dioxide.

The amount of Halon 1301 removed was calculated by certifying the weight of the reclaimed Halon 1301 and measuring the charge-weights of the removed Halon 1301 containers as well as the replacement fire-suppression containers.

MTA selected Stat-X, manufactured by Fireway, Inc., as a replacement fire-suppression agent. Because Stat-X has different fluid properties relative to Halon 1301, it required the use of alternate piping and valves; all other system components worked as is.

About TIGGER

The Transit Investment for Greenhouse Gas and Energy Reduction (TIGGER) Program was established in 2009 by the U.S. Department of Transportation's Federal Transit Administration (FTA). Designed to reduce energy use and greenhouse gas emissions in transit agencies around the country, the TIGGER Program made funds available for capital investments that would reduce greenhouse gas emissions or lower the energy use of public transportation systems. An initial \$100 million in American Recovery and Reinvestment Act grants funded 43 competitively-selected transit projects. In 2010, the FTA provided an additional \$75 million in grants to fund 27 new TIGGER projects. These 70 projects are employing a variety of technologies to meet the program goals, including solar installations, building efficiency improvements, wind technology, wayside energy storage for rail, and purchase of more efficient buses. In fiscal year 2011, FTA provided an additional \$49.9 million to continue the program.

For More Information

Maryland Transit Administration:
mta.maryland.gov

FTA TIGGER:
www.fta.dot.gov/TIGGER



U.S. Department of Transportation
Federal Transit Administration
1-866-377-8642

TIGGER - FS - MD-77-0001 - July 2011